

WHAT IS CLAIMED IS:

1. A mass-production packaging means suitable for mass-production packaging of an organic luminescent display, comprising at least :

5 a panel feeding system used to send an organic luminescent display panel into the mass-production packaging means;

an UV pretreatment system used to clean the surface of the organic luminescent display panel;

a sizing system used to apply the cleaned surface of the organic electroluminescent display panel with a molding compound;

10 a lid feeding system used to send a lid into the mass-production packaging means;

an alignment/lamination system used to align the lid with the organic electroluminescent display panel and perform the lamination;

15 an UV irradiation system used to provide UV light to cure the molding compound;

a product output system used to convey one of the packaged products outside of the packaging means;

20 a transportation system used to convey the organic electroluminescent display panel to the panel feeding system, the UV pretreatment system, the sizing system, the lid feeding system, the alignment/lamination system, the UV irradiation system and the product output system in a continuous way; and

an atmosphere control system used to control water vapor and oxygen content in the packaging means.

2. The mass-production packaging means of claim 1, wherein the materials for the

organic electroluminescent display panel and for the lid are chosen from a group consisting of glass, plastic, acrylic, polymer and metal.

3. The mass-production packaging means of claim 1, wherein the transportation system is a conveying band or an automatic arm.

5 4. The mass-production packaging means of claim 1, wherein the UV pretreatment system includes a continuous wave UV system or an UV laser system.

5. The mass-production packaging means of claim 4, wherein the UV pretreatment system includes the UV laser system and serves to

provide UV laser by the UV laser system; and

10 scan the organic electroluminescent display panel in X and Y directions with the UV laser.

6. The mass-production packaging means of claim 4, wherein the UV pretreatment system includes the UV laser system and serves to

provide UV laser by the UV laser system; and

15 scan organic electroluminescent display panel at constant intervals with the UV laser when the organic electroluminescent display panel is moved in X and Y directions.

7. The mass-production packaging means of claim 1, wherein the sizing system is provided with at least two sizing heads, and serves to

20 fix and align the organic electroluminescent panel; and

move the heads in X, Y and Z directions to apply the molding compound.

8. The mass-production packaging means of claim 1, wherein the sizing system is provided with at least two sizing heads, and serves to

fix the sizing heads in X and Y directions and move only in Z direction; and

move the organic electroluminescent display panel in X and Y directions, and applying the molding compound is carried out by the sizing heads.

9. The mass-production packaging means of claim 1, wherein the molding compound is an UV paste.

5 10. A mass-production packaging means suitable for mass-production packaging of an organic luminescent display, comprising at least :

a sizing system having at least two sizing heads, which are used to apply a molding compound on a surface of the organic electroluminescent display panel;

10 an alignment/lamination system used to align a lid with the organic electroluminescent display panel and perform the lamination;

an UV irradiation system used to provide UV light to cure the molding compound;

15 a transportation system used to convey the organic electroluminescent display panel to the sizing system, the alignment/lamination system and the UV irradiation system in a continuous way; and

an atmosphere control system used to control the water vapor and oxygen content in the packaging means.

20 11. The mass-production packaging means of claim 10, wherein the materials for the organic electroluminescent display panel and for the lid is chosen from a group consisting of glass, plastic, acrylic, polymer and metal.

12. The mass-production packaging means of claim 10, wherein the sizing heads are moved in X, Y and Z directions to apply the molding compound.

13. The mass-production packaging means of claim 10, wherein the sizing heads are fixed in X and Y directions and moved only in Z direction to apply the molding

compound when the organic electroluminescent display panel is moved in X and Y directions.

14. The mass-production packaging means of claim 10, wherein the molding compound is an UV paste.

5 15. A mass-production packaging means suitable for mass-production packaging of an organic luminescent display, comprising at least :

a sizing system having at least two sizing heads, which are used to apply a molding compound on a surface of the organic electroluminescent display panel;

10 an alignment/lamination/UV irradiation system used to align the lid with the organic electroluminescent display panel to perform lamination, and provide UV light to cure the molding compound;

a transportation system used to convey the organic electroluminescent display panel to the sizing system and the alignment/lamination/UV irradiation system in a continuous way; and

15 an atmosphere control system used to control water vapor and oxygen content in the packaging means.

16. The mass-production packaging means of claim 15, wherein the materials for the organic electroluminescent display panel and the lid are chosen from a group consisting of glass, plastic, acrylic, polymer and metal.

20 17. The mass-production packaging means of claim 15, wherein the sizing heads are moved in X, Y and Z directions to apply the molding compound.

18. The mass-production packaging means of claim 15, wherein the sizing heads are fixed in X and Y directions and moved only in Z direction to apply the molding compound when the organic electroluminescent display panel is moved in X and Y

directions.

19. The mass-production packaging means of claim 15, wherein the molding compound is an UV paste.

20. A mass-production packaging method suitable for mass-production packaging of an organic luminescent display panel on which an organic electroluminescent device is formed, comprising:

providing a transportation system on the organic electroluminescent display panel;

conveying the organic electroluminescent display panel into an UV pretreatment system by the transportation system to clean a surface of the organic electroluminescent display panel;

conveying the organic electroluminescent display panel into a sizing system by the transportation system to apply the molding compound on the surface of the organic electroluminescent display panel;

conveying the organic electroluminescent display panel system into an alignment/lamination system by the transportation system;

conveying a lid into the alignment/lamination system by a lid feeding system;

aligning the lid with the organic electroluminescent display panel in the alignment/lamination system and performing lamination;

irradiating the molding compound with UV light to cure the molding compound; and

conveying the organic electroluminescent display into a product output system by the transportation system to finish the package therefor.

21. The mass-production packaging method of claim 20, wherein the materials for the

organic electroluminescent display panel and the lid are chosen from a group consisting of glass, plastic, acrylic, polymer and metal.

22. The mass-production packaging method of claim 20, wherein the UV pretreatment system uses an UV laser system and the cleaning of the organic electroluminescent display panel in the UV pretreatment system includes :

providing UV laser by the UV laser system;
fixing and aligning the organic electroluminescent display panel; and
scanning in X and Y directions with the UV laser.

23. The mass-production packaging method of claim 20, wherein the UV pretreatment system uses an UV laser system, and the step of cleaning the surface of the organic electroluminescent display panel in the UV pretreatment system further includes :

providing UV laser by the UV laser system;
fixing the UV laser; and
moving the organic electroluminescent display panel in X and Y directions
and scanning at constant intervals with the UV laser.

24. The mass-production packaging method of claim 20, wherein the step of applying a molding compound on the cleaned surface of the organic electroluminescent display panel by the sizing system further includes:

providing at least two sizing heads in the sizing system;
fixing and aligning the organic electroluminescent panel ; and
moving the heads in X, Y and Z directions to apply the molding compound.

25. The mass-production packaging method of claim 20, wherein the step of applying the cleaned surface of the organic electroluminescent display panel with a molding compound by the sizing system further includes:

providing at least two sizing heads in the sizing system;

fixing the sizing heads in X and Y directions and moving the heads only in Z direction; and

moving the organic electroluminescent display panel in X and Y directions

5 and applying the molding compound, which is carried out by the sizing heads.

26. The mass-production packaging method of claim 20, wherein the molding compound is an UV paste.

27. The mass-production packaging method of claim 20, wherein the alignment in the alignment/lamination system can be performed mechanically or by using a charge
10 couple device.

28. The mass-production packaging method of claim 20, wherein the lamination in the alignment/lamination system can be performed mechanically, pneumatically or hydraulically.

29. A mass-production packaging method suitable for mass-production packaging of
15 an organic luminescent display, comprising at least :

applying a molding compound on a surface of the organic electroluminescent display panel by at least two sizing heads;

aligning a lid with the organic electroluminescent display panel and performing lamination; and

20 irradiating the molding compound with UV light to cure the molding compound.

30. The mass-production packaging method of claim 29, wherein the materials for the organic electroluminescent display panel and for the lid is chosen from a group consisting of glass, plastic, acrylic, polymer and metal.

31. The mass-production packaging method of claim 29, wherein the step of applying the molding compound on the surface of the organic electroluminescent display panel by the sizing heads further includes :

fixing and aligning the organic electroluminescent display panel; and

5 moving the sizing heads in X, Y and Z directions to apply the molding compound.

32. The mass-production packaging method of claim 29, wherein the step of applying the molding compound on the surface of the organic electroluminescent display panel by the sizing heads further includes :

10 fixing the sizing heads in X and Y directions but moving only in Z direction; and

moving the organic electroluminescent display panel in X and Y directions to apply the molding compound.

33. The mass-production packaging method of claim 29, wherein the molding
15 compound is an UV paste.

34. The mass-production packaging method of claim 29, wherein the lamination can be performed mechanically, pneumatically or hydraulically.

35. A mass-production packaging method suitable for mass-production packaging of an organic luminescent display panel on which an organic electroluminescent is
20 formed, comprising at least :

cleaning a surface of the organic electroluminescent display panel with UV light;

applying a molding compound on the surface of the organic electroluminescent display panel by at least one sizing head;

aligning a lid with the organic electroluminescent display panel and performing lamination;

irradiating the molding compound with UV light to cure the molding compound.

5 36. The mass-production packaging method of claim 35, wherein the UV light for cleaning the surface of the organic electroluminescent display panel is a continuous wave UV light or an UV laser.

10 37. The mass-production packaging method of claim 35, wherein the materials for the organic electroluminescent display panel and for the lid are chosen from a group consisting of glass, plastic, acrylic, polymer and metal.

38. The mass-production packaging method of claim 35, wherein the step of applying the molding compound on the surface of the organic electroluminescent display panel by the sizing heads further includes :

15 fixing and aligning the organic electroluminescent display panel; and moving the sizing heads in X, Y and Z directions to apply the molding compound.

39. The mass-production packaging method of claim 35, wherein the step of applying the molding compound on the surface of the organic electroluminescent display panel by the sizing heads further includes :

20 fixing the sizing heads in X and Y directions but moving only in Z direction; and

moving the organic electroluminescent display panel in X and Y directions and applying the molding compound in Z direction by the sizing heads.

40. The mass-production packaging method of claim 35, wherein the molding

compound is an UV paste.

41. The mass-production packaging method of claim 35, wherein the lamination can be performed mechanically, pneumatically or hydraulically.

42. A mass-production packaging method suitable for mass-production packaging of an organic luminescent display panel on which an organic electroluminescent is formed, comprising at least :

applying a molding compound on a surface of the organic electroluminescent display panel by at least one sizing head; and

aligning a lid with the organic electroluminescent display panel and performing lamination, while irradiating the molding compound with UV light to cure the molding compound.

43. The mass-production packaging method of claim 42, wherein the materials for the organic electroluminescent display panel and for the lid are chosen from a group consisting of glass, plastic, acrylic, polymer and metal.

44. The mass-production packaging method of claim 42, wherein the step of applying the molding compound on the surface of the organic electroluminescent display panel by the sizing heads further includes :

fixing and aligning the organic electroluminescent display panel; and

moving the sizing heads in X, Y and Z directions to apply the molding compound.

45. The mass-production packaging method of claim 42, wherein the step of applying the molding compound on the surface of the organic electroluminescent display panel by the sizing heads further includes :

fixing the sizing heads in X and Y directions but moving only in Z direction;

and

moving the organic electroluminescent display panel in X and Y directions
and applying the molding compound in Z direction by the sizing heads.

46. The mass-production packaging method of claim 42, wherein the molding
5 compound is an UV paste.
47. The mass-production packaging method of claim 42, wherein the lamination can
be performed mechanically, pneumatically or hydraulically.